

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

000174-0295-101

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on _____

Signature _____

Typed or printed name _____

Application Number

10/762,864

Filed

January 21, 2004

First Named Inventor

Wilson Wong

Art Unit

2611

Examiner

Aristocratis Fotakis

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

/Gall C. Gotfried/

Signature

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

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November 16, 2009

Registration number if acting under 37 CFR 1.34 _____

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.
Submit multiple forms if more than one signature is required, see below.

☒ *Total of 1 forms are submitted.

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CONCISE ARGUMENT FOR WHICH REVIEW IS BEING REQUESTED

I. Summary of Office Action

Claims 1, 3-8, 10-12, 14-16, 20-22, 24, 26-28, 30 and 32-44 are pending in this application.

Claims 1, 3-7, 26, 33, 38 and 41 have been rejected under 35 U.S.C. § 103(a) as being obvious from Gorecki U.S. Patent Application Publication No. 2004/0071205 ("Gorecki") in view of WinSLAC Software User's Guide (1999) ("WinSLAC") and Altera Corporation, "FIR Compiler MegaCore Function" ("Solution Brief 41"). Claims 21, 22, 30 and 36 have been rejected under 35 U.S.C. § 103(a) as being obvious from Jaynes et al. U.S. Patent Application Publication No. 2005/0047779 ("Jaynes") in view of WinSLAC and Solution Brief 41. Claims 20, 40 and 44 have been rejected under 35 U.S.C. § 103(a) as being obvious from Jaynes in view of WinSLAC, Solution Brief 41 and Hillery U.S. Patent No. 6,178,201 ("Hillery"). Claims 8, 10, 11, 24, 27, 32, 34, 37, 39 and 42 have been rejected under 35 U.S.C. § 103(a) as being obvious from Gorecki and Lu U.S. Patent No. 6,275,836 ("Lu") in view of WinSLAC and Solution Brief 41. Claims 12, 14-16, 28, 35 and 43 have been rejected under 35 U.S.C. § 103(a) as being obvious from Pedersen et al. U.S. Patent Application Publication No. 2006/0114979 ("Pedersen") in view of WinSLAC and Solution Brief 41. Claims 16 and 43 have been rejected under 35 U.S.C. § 103(a) as being obvious from Pedersen in view of WinSLAC, Solution Brief 41 and Gorecki.

II. Applicants' Claimed Invention and The References

Applicants' invention, as defined by independent claims 1, 8, 12, 22, 24, 26, 27, 28, 30 and 32, is directed to receiver circuitry and methods for adaptively equalizing a data signal. The receiver circuitry and methods include, *inter alia*, programmable circuitry that is programmed with a first value (claims 1, 8, 12, 24, 26, 27, 28, and 32) or with a first training pattern (claims 22 and 30). The programmable circuitry outputs the first value (claims 12, 24, 28, and 32) or the first training pattern (claims 22 and 30) and a control signal. Processing circuitry computes a second value (claims 1, 8, 12, 24, 26, 27, 28, and 32) and outputs the second value in parallel with the first value (claims 12, 24, 28, and 32). Training pattern circuitry stores a second training pattern and outputs the second training pattern in parallel with the first training pattern (claims 22 and 30). Selection circuitry selects, based on a control signal (claims 1, 12, 22, 24, 27, 28, 30, and 32), one of the first and the second values (claims 1, 8, 12, 24, 26, 27, 28, and 32) or one of the first and second

training patterns (claims 22 and 30) at the time the programmable circuitry is being programmed by configuration data.

Claims 1 and 26 recite that the first and second values each correspond to a "number of taps" of a filter. Claims 8 and 27 recite that the first and second values each indicate a "selection between integer spacing and fractional spacing" of filter taps. Claims 12 and 28 recite that the first and second values each correspond to a "starting value." Claims 24 and 32 recite that the first and second values each correspond to a "location of the sampling point."

WinSLAC discusses a software tool that enables a user to design and generate an optimum set of coefficients for programmable filters that are modeled within the software (WinSLAC, page 1-2). Coefficients may be automatically calculated for a modeled filter or coefficient values may be manually entered by the software tool user (WinSLAC, pages 4-17, 4-18, and 4-19).

Solution Brief 41 discusses a FIR compiler wizard (software) that allows a user to create FIR filters. The software displays one selectable option to have filter coefficients provided from a file and a second option to have the coefficients generated by the compiler. The response of the filter can be viewed dynamically as the coefficient settings are changed. The wizard outputs code that can be used to synthesize FIR filters of hardware architectures. (Solution Brief 41, FIG. 2 and pages 1 and 2.)

III. WinSLAC and Solution Brief 41 To Show Or Suggest Selection Circuitry that Selects One Of A First and Second Values Or One Of A First And Second Training Patterns Based On A Control Signal

Applicants respectfully submit that because WinSLAC or Solution Brief 41 each disclose a software tool that can be used to model various filter behavior to model a particular filter having the desired taps and coefficients, either of WinSLAC or Solution Brief 41 fails to show or suggest an already implemented receiver circuitry with selection circuitry. More specifically, the mere simulation of receiver circuitry, as discussed in either WinSLAC or Solution Brief 41, is not the same as a circuit that is implemented to perform a particular function (e.g., select between two values), as defined by applicants' claims.

In particular, WinSLAC allows a user to select, using a user interface, to manually enter coefficients for a filter model or to have coefficients of the filter be automatically calculated by the software. Solution Brief 41 allows the user to select whether coefficient values are provided by a file (specified by a user) or generated by the compiler (software) in order to simulate and synthesize (implement) a filter with a desired behavior. However, in either case once a filter with the desired behavior is synthesized (implemented), the filter does not select between user provided coefficient values and

software generated coefficient values as this selection is only performed during the simulation of the filter. Indeed, the SLAC menu software of WinSLAC and the compiler wizard of Solution Brief 41 (which each allow such selection and generation of the alleged computed values) are not implemented in the filter and thus cannot provide the alleged computed coefficient values to the alleged selection circuitry in the implemented filter.

In addition, WinSLAC discusses the user selecting between having coefficients automatically calculated for the filter (i.e., the alleged first value) and manually entering the filter coefficients (i.e., the alleged second value) by selecting respective options from a display screen displaying the SLAC menu. Solution Brief 41 discusses the user selecting whether the coefficient values are read from a file (i.e., the alleged first value) or generated using the compiler (i.e., the alleged second value) by selecting respective options from a display. Therefore, WinSLAC nor Solution Brief 41 necessarily does not show or suggest that the selection, between the first and second values, that is made by the circuitry is based on a control signal.

As acknowledged by the Examiner, each of Gorecki, Pedersen, and Jaynes also fails to show or suggest these features (Office Action, pages 3, 11, and 15). Lu is cited as allegedly showing other features of the applicants' claims, but does not make up for the deficiencies of the other cited prior art relative to the rejection. Therefore, the prior art of record fails to show or suggest these features of applicants' independent claims.

IV. The Prior Art Fails To Show Or Suggest Selection Circuitry that Selects One Of A First and Second Values Or One Of A First And Second Training Patterns At The Time Configuration Data Programs Programmable Circuitry

Nowhere has the Examiner addressed selection circuitry that selects one of a first value that is programmed and a second value that is computed (or selection circuitry that selects one of a first and second training patterns) at the time programmable circuitry is being programmed by configuration data, as required by applicants' claims 1, 8, 12, 22, 24, 26, 27, 28, 30 and 32 nor is this feature present in any of the cited prior art references. Gorecki, Pedersen, Jaynes and Lu, alone or in combination, do not show or suggest this feature. Although, WinSLAC and Solution Brief 41 discuss receiver circuitry simulation, neither shows or suggests physically implementing any sort of selection circuitry that is used to select between two values (or training patterns), such as what is defined by applicants' claims.

Even if the user were analogized with selection circuitry that selects based on a control signal, neither WinSLAC nor Solution Brief 41 would show or suggest this feature. In particular, in both WinSLAC and in Solution Brief 41 the selection between the alleged two values (or training patterns) is made while simulating the behavior of the filter

in computer software and before any configuration file of the filter is created for implementation. Therefore, because the alleged selection is made prior to the existence of the configuration data (i.e., before the compiler (software) outputs a simulation file), the alleged selection is necessarily not made at the time the programmable circuitry is being programmed by configuration data.

V. Pedersen Fails To Show Or Suggest Programmable Circuitry That Is Programmed By Configuration Data

Applicants respectfully submit that Pedersen does not show or suggest programmable circuitry that is programmed by configuration data, as defined by applicants' claims 12 and 28. In particular, the Examiner alleges that a bank of settings available to the user in Pedersen is the same as applicants' claimed programmable circuitry (Office Action, page 14, Response to Arguments Section). However, contrary to the Examiner's allegations, nowhere does Pedersen show or suggest that the bank of settings is programmed by configuration data. Moreover, Pedersen discloses the bank of settings being made available to the user (and perhaps modified by the user) which is not the same as programming the bank of settings with configuration data. WinSLAC and Solution Brief 41 were cited as showing other features of applicants' claims and do not make up for the deficiencies of Pedersen in that regard.

VI. Insufficient Support For A Finding Of Obviousness

Applicants remind the Examiner "[t]hat mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims ... is not by itself sufficient to support a finding of obviousness. The prior art must provide a ... reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device." *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353; MPEP § 2144.04. The Examiner's position appears to require one to rearrange and modify the SLAC Menu software tool of WinSLAC and the displayed FIR compiler wizard of Solution Brief 41 to allow for the selection of one of a first value that is programmed and a second value that is computed (or one of a first and second training patterns) using physical selection circuitries allegedly shown or suggested by Gorecki, Lu, Pedersen, or Jaynes. This modification is not supported by at least the WinSLAC and Solution Brief 41 references. On the contrary, the modification of SLAC Menu of WinSLAC or the FIR compiler wizard of Solution Brief 41 would contravene the purpose of these cited references and change their principle operation at least because 1) such selection circuitry would be extraneous to the operation of the software and 2) even if such

selection circuitry were used to choose between two alleged filter coefficient values (i.e. values provided by a user or generated by software), it would obviate the user's ability to select between values which would render the software of WinSLAC or of Solution Brief 41 unusable. "If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). Thus, because combining a selection circuitry in the manner suggested by the Examiner would contravene the purpose of these cited references and change their principle operation, there is no reason for the worker in the art to make such changes without the benefit of applicants' specification. Therefore, the Examiner's position is insufficient as a matter of law to support a finding of obviousness.

Therefore, Gorecki, Lu, Pedersen, Jaynes, WinSLAC, and Solution Brief 41, whether taken alone or in combination, do not show or suggest all the features of applicants' independent claims 1, 8, 12, 22, 24, 26, 27, 28, 30, and 32. Accordingly, applicants respectfully submit that independent claims 1, 8, 12, 22, 24, 26, 27, 28, 30 and 32, and any claims that depend, directly or indirectly from claim 1, 8, 12, 22, 24, 26, 27, 28, 30 or 32, are allowable.

VI. Conclusion

For the reasons set forth above, applicants respectfully submit that this application is in condition for allowance. Panel review of the rejections based on the cited references and prompt allowance of this application, are respectfully requested.

Respectfully submitted,

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